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10/574,375	04/26/2007	Robert James Donohue	078305.117518	2257

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EXAMINER	
DODDS, SCOTT	
ART UNIT	**PAPER NUMBER**
4122	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,375	DONOHUE, ROBERT JAMES	
	Examiner	Art Unit	
	SCOTT DODDS	4122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *1-4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II (Claims 5-14) in a reply filed March 4, 2009 is acknowledged. Applicant's arguments have been fully considered but they are not persuasive. Applicant argues that neither of the references cited in the Restriction disclose "winding the plastic tubing onto the main shaft at an oblique angle relative thereto to produce a coil on the main tube shaft thereof." Examiner disagrees.

Both Evalt (US Pat. No. 2,432,870) and Moncrieff (US Pat. No. 2,740,987) disclose such a feature. As an example, Evalt specifically discloses that "an extruded resilient plastic is helically coiled about a mandrel and set in this position" (See col. 1, line 55, col. 2, line 2). Coiling a plastic tube about a mandrel inherently involves winding said tube at an oblique angle. Thus, Applicant has failed to establish a common special technical feature and examination will proceed on elected Group II, Claims 5-14.

Claim Objections

Claim 5 is objected to because of the following informalities: the recitation of "said second point" on page 14, line 14 should read "said third point" in order to be coherent; the recitation of "said second point" on page 14, line 16 should read "said third point" in order to be coherent. Examiner has interpreted these errors to read as a third point. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 recites the limitation "said carousel" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 5-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moncrieff in view of Dijkman, Sr. et al. (US Pat. No. 5,167,891).

Moncrieff discloses a coiling system for continuously forming coiled plastic tubing, said coiling system comprising a main tube shaft for forming plastic tubing into a helix (See col. 1, lines 15-28), said main tube shaft having a longitudinal axis (See col. 2, lines 29-30); a driving means, said driving means being for rotating said main tube shaft about said longitudinal axis (See col. 2, lines 29-31); a heat source at a second point on said main tube shaft, said second point being downstream from said first point, said heat source being adapted to heat coiled plastic tubing at said second point (See col. 2, lines 22-25); a cooling apparatus consisting of a cool-air source at a third point on said main tube shaft, said third point being downstream from said second point, said cooling apparatus being adapted to cool coiled plastic tubing at said third point to set said plastic tubing into a coiled form (See col. 3, lines 5-7 and note that it is implicit that the cooling is used to help set the plastic coil).

Moncrief fails to specifically disclose a motor. However, the drive means described in Moncrief implicitly refers to a motor or like device. Further, a drive means or motor set to rotate a mandrel about an axis for coiling would be advantageous of it were disposed at one end of said axis because it would allow the coils to pass down the entire length of the axis uninhibited by the placement of the motor. Thus, it would have been obvious to a person having ordinary skill in the art at the time of invention to use a motor as the drive means and dispose it at one end of the axis.

Moncrief fails to specifically disclose a tube guide. However, it is implicit in Moncrief that the plastic is in some way disposed on the mandrel at an oblique angle in order form the helix described (See col. 1, lines 18-22 wherein winding the plastic onto

the winding surface in a helix is described). Anything disposing the helical plastic on the mandrel could be considered a tube guide. The gap claimed in the tube guide could be anything in the tube guide outletting the plastic. A person having ordinary skill in the art at the time of invention would have found it implicit and/or obvious that the plastic rod in Moncrief is disposed on the mandrel from somewhere that guides the tube onto the mandrel and thus a tube guide having a gap is obvious and unpatentable.

Moncrief fails to specifically disclose a cutter. However, in order to create a coiled product of a specific length, a continuous coil must be repeatedly cut, and it would have been obvious to a person having ordinary skill in the art to cut the coil on the mandrel after the coil is formed in order to maximize efficiency in the apparatus. Further, Dijkman, Sr. et al. discloses an apparatus for producing plastic coils on a mandrel (See Abstract and Fig. 2) wherein a cutter is used to cut the plastic coil on and against the mandrel after cooling without interrupting coiling formation (See col. 3, lines 40-45, and col. 4, lines 26-32, 47-56). In order to create a consistent product during continuous coiling, the cutting on the mandrel must intrinsically be at preselected intervals of time. It would have been obvious to a person having ordinary skill in the art at the time of invention to utilize a cutter on the mandrel designed to cut a coil against the mandrel, as in Dijkman, Sr. et al., in a coiling apparatus such as that described in Moncrief in order to form a consistent product. The rationale for doing so would have been the motivation provided by the teaching of Dijkman, Sr. et al. that a cutter located on the mandrel would have predictably assured technically simple cutting of the coil at respective locations in order to produce the final product (See col., lines 43-45).

Regarding Claims 6 and 7, Moncrief and Dijkman, Sr. et al. discloses the coiling device of Claim 5 as described above. Moncrieff further discloses a mandrel with a progressively decreasing diameter along at least a portion of its length (See col. 1, lines 49-54) and a rotation speed of 150 revolutions per minute (See col. 3, lines 51-55).

Regarding Claims 8 and 11, Moncrief and Dijkman, Sr. et al. disclose the coiling device of Claim 5 as described above. Moncrief and Dijkman, Sr. et al. fail to disclose that the heat source is a heat gun and the cooling source is a vortex cooling tube. However, heating and cooling the coil would generally have the same effect on final product regardless on the means used to heat and/or cool the coil (i.e. every heating means is capable of heating, and every cooling means is capable of cooling). Further, a person having ordinary skill in the art would have known that various heating and/or cooling means could be used when heating and cooling a coil and he or she would have been able to select the means that he or she finds appropriate to carry out the desired process (See, for example, Howell (US Pat. No. 3,184,795), col. 6, lines 29-41, discussing how any known means could be used to heat or cool a coil).

Regarding Claim 9, Moncrief and Dijkman, Sr. et al. disclose the coiling device of Claim 5 as described above. Moncrief and Dijkman, Sr. et al. fail to disclose a temperature range of 400˚F to 700˚F. However, Examiner asserts that the temperature used for heating the heated coil is generally not critical and any temperature capable of softening the plastic coil would be adequate (See, for example, Doell (US Pat. No. 2,392,842), col. 4, lines 13-14). Thus, it would have been obvious for a person having ordinary skill in the art to discover the optimum or workable temperature ranges by

routine experimentation for the particular plastic medium being used (See MPEP 2144.05 (II)(A)).

Regarding Claim 14, Moncrief and Dijkman, Sr. et al. disclose the coiling device of Claim 5 as described above. Dijkman, Sr. et al. discloses an outer element comprising two parallel cutting mean about the mandrel with the inner element being the mandrel itself (See col. 3, lines 40-45, and col. 4, lines 47-56). Since both of the outer elements come together at the same time, the cutting could be described as scissor-like. Dijkman, Sr. et al. fails to disclose that the outer element is rotatable. However, rotation would increase shear force with the mandrel and thus facilitate cutting of the tubing. Therefore, it would have been obvious to a person having ordinary skill in the art at the time of invention to rotate the outer cutting element in Dijkman, Sr. et al. in order to facilitate cutting. The rationale for using the cutting element of Dijkman, Sr. et al. with the apparatus of Moncrief is the same as provided above.

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moncrieff and Dijkman, Sr. et al as applied to claim 5 above, and further in view of Lyngaas (WO 01/02251).

Regarding Claim 13, Moncrief and Dijkman, Sr. et al. disclose the coiling device of Claim 5 as described above. As described above, Dijkman, Sr. et al. discloses that the cutter is disposed on both sides of the mandrel and thus could reasonably be considered to surround the shaft. Moncrief and Dijkman, Sr. et al. fail to disclose a carousel for collecting the coiled plastic. However, the concept of stepwise rotating

carousels as a means for collecting a product is by no means novel and is well-known in the manufacturing industry to be used for a variety of collection and sorting purposes. One such example of a stepwise rotating carousel system for collecting objects is illustrated in Lyngaas (See Abstract). Although the carousel system taught in Lyngaas is directed towards an unrelated manufacturing process that involves objects collected into boxes on a stepwise rotating carousel once they are ready for distribution (See page 3, lines 1-9), the idea of packing or collecting a product in a manufacturing process is transferable to the coil making system of Moncrief and Dijkman, Sr. et al. It would have been obvious to a person having ordinary skill in the art at the time of invention to modify the carousel concept in Lyngaas so as to collect the coils on a stepwise rotating carousel after they are cut from the mandrel, and to deposit the coil on a shaft, instead of in boxes, since a shaft would ensure that the coils hold their circular form. It would have been obvious to a person having ordinary skill in the art at the time of invention to use the stepwise rotating carousel concept, as is taught in Lyngaas, with coiling apparatus as taught by Moncrief and Dijkman, Sr. et al. in order to collect the coiled product as it is created. The rationale for doing so would have been the motivation provided by the teaching of Lyngaas that to use a carousel in a manufacturing process would have predictably helped sort and prepare the product for distribution (See page 2, lines 7-29).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Evalt (US Pat. 2,432,870) describing a coiling system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCOTT DODDS whose telephone number is (571)270-7653. The examiner can normally be reached on Mon-Fri 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SWD/
Examiner, Art Unit 4122

/Timothy J. Kugel/
Primary Examiner, Art Unit 1796